

What Is Claimed Is:

1. A method of configuring a data center, wherein the data center has associated capacities for hosting the operation of computing equipment, the
5 method comprising:

for each computing mechanism in a set of computing mechanisms,
defining a corresponding equipment unit describing one or more characteristics of
said computing mechanism;

10 aggregating said characteristics described in said equipment units
corresponding to a selected subset of said computing mechanisms; and
determining whether the capacities of the data center can accommodate
said aggregated characteristics.

2. The method of claim 1, further comprising:
15 if the associated capacities of the data center cannot accommodate said
aggregated characteristics, modifying said selected subset of said computing
mechanisms.

3. The method of claim 1, further comprising:
20 if the associated capacities of the data center cannot accommodate said
aggregated characteristics, re-designing the data center to increase one or more of
the associated capacities.

4. The method of claim 1, wherein said defining an equipment unit
25 comprises:
defining an interchangeable equipment unit comprising selected
characteristics of two or more substitutable computing mechanisms.

5. The method of claim 1, wherein the associated capacities of the data center include one or more of: electrical power and cooling.

5 6. The method of claim 1, wherein the associated capacities of the data center include one or more of: electrical power, cooling and physical space.

7. The method of claim 1, wherein the associated capacities of the data center include one or more of: electrical power, cooling, physical space and weight.

8. The method of claim 1, wherein the associated capacities of the data center include one or more of: electrical power, cooling, physical space, weight and data connectivity.

9. The method of claim 1, wherein said characteristics described in an equipment unit for a corresponding computing mechanism include one or more of:

electrical power requirement for operating said computing mechanism;
20 and
cooling requirement for operating said computing mechanism.

10. The method of claim 9, wherein said characteristics further include a measure of physical space required for situating said computing mechanism in the data center.

11. The method of claim 9, wherein said characteristics further include

a weight of said computing mechanism.

12. The method of claim 9, wherein said characteristics further include a connectivity requirement of said computing mechanism.

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13. The method of claim 9, wherein said characteristics further include a functional capability of said computing mechanism.

14. The method of claim 1, wherein said computing mechanisms
10 include one or more computer servers.

15. The method of claim 14, wherein said computing mechanisms further include one or more storage devices.

15 16. The method of claim 14, wherein said computing mechanisms further include one or more communication devices.

17. A computer readable storage medium storing instructions that, when executed by a computer, cause the computer to perform a method of
20 configuring a data center, wherein the data center has associated capacities for hosting the operation of computing equipment, the method comprising:

for each computing mechanism in a set of computing mechanisms, defining a corresponding equipment unit describing one or more characteristics of said computing mechanism;

25 aggregating said characteristics described in said equipment units corresponding to a selected subset of said computing mechanisms; and determining whether the capacities of the data center can accommodate

said aggregated characteristics.

18. A method of configuring a computer equipment operating area,
comprising:

5 identifying one or more limiting capacities of the computer operating area;
creating, for each computing equipment item in a set of computing
equipment items, a profile comprising one or more characteristics of said
computing equipment item;

10 selecting a first subset of said computing equipment items for possible
installation in the computer operating area;

combining said characteristics from said profiles corresponding to said
first subset of said computing equipment items; and

if said combined characteristics exceed said limiting capacities, selecting a
second subset of said computing equipment items.

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19. The method of claim 18, further comprising:

for two or more of said computing equipment items that are functionally
interchangeable, creating an interchangeable profile comprising characteristics
encompassing either of said two or more computing equipment items.

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20. The method of claim 18, wherein said limiting capacities include
one or more of: electrical power, cooling and physical space.

21. The method of claim 18, wherein said limiting capacities include
25 one or more of: electrical power, cooling, physical space, weight and data
connectivity.

22. The method of claim 18, wherein a first profile corresponding to a first computer equipment item describes one or more of the following characteristics of said first computer equipment item:

- an electrical power requirement for operating said first computer equipment item; and
- a cooling requirement for operating said first computer equipment item.

23. The method of claim 22, wherein said first profile further describes one or more of the following characteristics of said first computer equipment item:

- a size of said first computer equipment item;
- a weight of said first computer equipment item; and
- a data connectivity of said first computer equipment item.

24. The method of claim 22, wherein said first profile further describes a functional capability of said first computer equipment item.

25. The method of claim 18, wherein said computing equipment items include one or more computers and one or more storage devices.

26. The method of claim 25, wherein said computing equipment items further include one or more communication devices.

27. A method of designing a data center for operating computer equipment, comprising:

- (a) defining a proxy for each member of a set of computer equipment, wherein said proxy describes requirements of said member, including:

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- (i) a power requirement for operating said member;
 - (ii) a cooling requirement for operating said member; and
 - (iii) a physical space requirement for said member;
- (b) combining said proxy requirements for each member of a first
5 subset of said computer equipment; and
- (c) determining whether the data center can accommodate said
combined proxy requirements.

28. The method of claim 27, further comprising:
10 (d) if the data center cannot accommodate said combined proxy
requirements, repeating said (b) and (c) for a second subset of said computer
equipment.

29. The method of claim 27, wherein said proxy further describes:
15 (iv) a connectivity requirement for operating said member.

30. The method of claim 27, wherein said proxy further describes:
(iv) a weight of said member.

20 31. The method of claim 27, wherein said proxy further describes:
(iv) a functional capability of said member.

32. The method of claim 27, wherein said determining comprises:
(c') if the data center comprises an existing structure, determining
25 whether the data center has a limited capacity for:
(i) providing power for operating the computer equipment;
(ii) cooling the computer equipment; and

(iii) providing space for the computer equipment.

33. The method of claim 32, wherein said determining further comprises determining whether the data center has a limited capacity for:

- 5 (vi) supporting the weight of the computer equipment; and
 (v) providing data connectivity required by the computer equipment.

34. The method of claim 27, wherein said determining comprises:

10 (c') determining whether the data center can be structured to provide sufficient:

- (i) power;
 (ii) cooling; and
 (iii) space
15 to accommodate said combined proxy requirements.

35. The method of claim 34, wherein said determining further comprises determining whether the data center can be structured to provide sufficient:

- 20 (iv) load-bearing capacity; and
 (v) data connectivity
 to accommodate said combined proxy requirements.

36. A computer readable storage medium storing instructions that,
25 when executed by a computer, cause the computer to perform a method of designing a data center for operating computer equipment, the method comprising:

(a) defining a proxy for each member of a set of computer equipment,
wherein said proxy describes requirements of said member, including:

- (i) a power requirement for operating said member;
- (ii) a cooling requirement for operating said member; and
- (iii) a physical space requirement for said member;

(b) combining said proxy requirements for each member of a first
subset of said computer equipment; and

(c) determining whether the data center can accommodate said
combined proxy requirements.

37. A system for configuring a data center, comprising:

a first input module configured to receive a set of capacities of the data
center;

a second input module configured to receive requirements relating to each
item in a set of computer equipment;

a profiler configured to generate a total of said requirements for a first
subset of said computer equipment; and

a comparator configured to compare said total requirements with said data
center capacities.

38. The system of claim 37, wherein said profiler is further configured
to generate a total of said requirements for a second subset of said computer
equipment if said total requirements for said first subset of computer equipment
exceed said data center capacities.

39. The system of claim 37, wherein said profiler is configured to
generate a first profile encompassing said requirements for a first computer

equipment item.

40. The system of claim 39, wherein said profiler is further configured to generate a first interchangeable profile encompassing either of said first
- 5 computer equipment item and a second computer equipment item;
- wherein said first computer equipment item and said second computer equipment item are functionally substitutable.